Solar flare impulsive phase observations from SDO and other observatories

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With the start of normal operations of the Solar Dynamics Observatory in May 2010, the Extreme ultraviolet Variability Experiment (EVE) and the Atmospheric Imaging Assembly (AIA) have been returning the most accurate solar XUV and EUV measurements every 10 and 12 seconds, respectively, at almost 100% duty cycle. The focus of the presentation will be the solar flare impulsive phase observations provided by EVE and AIA and what these observations can tell us about the evolution of the initial phase of solar flares. Also emphasized throughout is how simultaneous observations with other instruments, such as RHESSI, SOHO-CDS, and HINODE-EIS, will help provide a more complete characterization of the solar flares and the evolution and energetics during the impulsive phase. These co-temporal observations from the other solar instruments can provide information such as extending the high temperature range spectra and images beyond that provided by the EUV and XUV wavelengths, provide electron density input into the lower atmosphere at the footpoints, and provide plasma flows of chromospheric evaporation, among other characteristics.